

Message

From: Hengst, Benjamin [Hengst.Benjamin@epa.gov]
Sent: 9/14/2018 1:20:41 PM
To: Charmley, William [charmley.william@epa.gov]; Samulski, Michael [samulski.michael@epa.gov]
CC: Burch, Julia [Burch.Julia@epa.gov]
Subject: FW: CONFIRMED RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 20

From: Pagano (US), Peter A [mailto:peter.a.pagano@boeing.com]
Sent: Friday, September 14, 2018 9:14 AM
To: Rakosnik, Delaney <rakosnik.delaney@epa.gov>
Cc: Lewis, Josh <Lewis.Josh@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Atkinson, Emily <Atkinson.Emily@epa.gov>
Subject: RE: CONFIRMED RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 20

Hi Delaney

Just getting back to you with our list of participants for the September 20 meeting with the Assistant Administrator:

Aerospace Industries Association: Leslie Riegle and David Hyde

Boeing: Ted Austell, Pete Pagano, John Moloney, Dan Allyn, Sean Newsum

General Electric: Roger Martella, Neal Kemkar, Mike Fitzpatrick, Muni Majjigi, Joe Zelina

Please let me know if you need any additional information. Also could you please tell me if there might be any EPA and/or FAA staff participating...we will have some handouts to leave behind and want to make sure we have enough of everything.

Thanks again for your assistance.

Peter A. Pagano
 Director, Environment
 The Boeing Company
 703-414-6486
 Email: peter.a.pagano@boeing.com

From: Rakosnik, Delaney [mailto:rakosnik.delaney@epa.gov]
Sent: Monday, July 30, 2018 4:25 PM
To: Pagano (US), Peter A <peter.a.pagano@boeing.com>
Cc: Lewis, Josh <Lewis.Josh@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Atkinson, Emily <Atkinson.Emily@epa.gov>
Subject: CONFIRMED RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Dear Peter,

You are confirmed for a 45 min meeting with Bill Wehrum on Sept 20th at 10am.

Directions and procedures to 1200 Pennsylvania Avenue NW:

Metro: If you come by Metro get off at the Federal Triangle metro stop. Exit the metro station and go up two sets of escalators to the surface level and turn right. You will see a short staircase and wheelchair ramp leading to a set of glass doors with the EPA logo - that is the William Jefferson Clinton Federal Building, North Entrance.

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Security Procedures: A government issued photo id is required to enter the building and it is suggested you arrive 15 minutes early in order to be cleared and arrive at the meeting room on time. Upon entering the lobby, the meeting attendees will be asked to pass through security and provide a photo ID for entrance. If you are a foreign national entering on a non-US passport, please let us know in advance, as there is a separate clearance process.

Upon arrival, let the guards know that you were instructed to call 202-564-7404 for a security escort. Please send me a list of participants in advance of the meeting and feel free to contact me should you need any additional information.

Many thanks,

Delaney Rakosnik
Staff Assistant
Immediate Office of the Assistant Administrator
Office of Air and Radiation, USEPA
Room 5406A, 1200 Pennsylvania Avenue NW
Washington, DC 20460
Voice: 202-564-2229
Email: rakosnik.delaney@epa.gov

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Subject: RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Delaney

Thanks for the message. This is to confirm that the meeting time on Sept 20 will work on our end. We will be in touch to provide participant names closer to the meeting date. Please let me know what additional information you may need.

All the best

Pete Pagano

From: Rakosnik, Delaney <rakosnik.delaney@epa.gov>
Sent: Friday, July 27, 2018 12:31:07 PM
To: Pagano (US), Peter A
Cc: Lewis, Josh; Hengst, Benjamin; Atkinson, Emily
Subject: RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Peter,

Bill Wehrum can accommodate a 45 min meeting on Sept 20th at 10am. How does that time work for your schedules?

Many thanks,

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Staff Assistant
Immediate Office of the Assistant Administrator
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Voice: 202-564-0935
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Hi Delaney

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Draft Agenda

1. ICAO Background and Regulatory Policy Development Process
2. Industry Engagement with ICAO and its Environment Committee (CAEP)
3. nvPM
4. NOx
5. CO2

Sincerely,

Peter A. Pagano
Director, Environment
The Boeing Company
703-414-6486
Email: peter.a.pagano@boeing.com

Message

From: Charmley, William [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=FB1828FB00AF42FFB68B9E0A71626D95-CHARMLEY, WILLIAM]
Sent: 9/17/2018 8:59:49 PM
To: kevin.welsh@faa.gov; Ralph.lovinelli@faa.gov
CC: Manning, Bryan [manning.bryan@epa.gov]; 'Michael Samulski (samulski.michael@epa.gov)' [samulski.michael@epa.gov]
Subject: RE: Industry participants for next week's meeting between aircraft/engine industry stakeholders and EPA Assistant Administrator Wehrum

Dear Kevin and Ralph,

This meeting with the aircraft industry and EPA AA Wehrum has been pushed back to a 10:30 am start time on Thursday, September 20.

The meeting will be in room 5400 North in the William Jefferson Clinton building (the EPA headquarters building).

Thanks
Bill

From: Charmley, William
Sent: Friday, September 14, 2018 9:32 AM
To: 'kevin.welsh@faa.gov' <kevin.welsh@faa.gov>; Ralph.lovinelli@faa.gov
Cc: Manning, Bryan <manning.bryan@epa.gov>; Michael Samulski (samulski.michael@epa.gov) <samulski.michael@epa.gov>
Subject: Industry participants for next week's meeting between aircraft/engine industry stakeholders and EPA Assistant Administrator Wehrum

Dear Ralph and Kevin –

AA Wehrum's office informed us today of who will be coming from the industry for next Thursday's meeting with him.

The list is below.

Thanks
Bill

- Aerospace Industries Association: Leslie Riegler and David Hyde
- Boeing: Ted Austell, Pete Pagano, John Moloney, Dan Allyn, Sean Newsum
- General Electric: Roger Martella, Neal Kemkar, Mike Fitzpatrick, Muni Majjigi, Joe Zelina

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Sent: 8/30/2018 12:40:12 PM
To: OTAQ Materials [OTAQMaterials@epa.gov]
CC: Michael Samulski (samulski.michael@epa.gov) [samulski.michael@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]
Subject: draft email for Chris to send AA Wehrum regarding FAA senior career staff participating in the aircraft industry meeting on September 20

Chris –

Ex. 5 Deliberative Process (DP)

Thanks
Bill

<< draft>>

Subject: FAA staff participation in the September 20 aircraft industry meeting

Dear Bill,

Ex. 5 Deliberative Process (DP)

Thanks
Chris.

Message

From: Dominguez, Alexander [dominguez.alexander@epa.gov]
Sent: 10/23/2018 4:55:52 PM
To: Woods, Clint [woods.clint@epa.gov]; Gunasekara, Mandy [Gunasekara.Mandy@epa.gov]; Harlow, David [harlow.david@epa.gov]
CC: Lewis, Josh [Lewis.Josh@epa.gov]
Subject: RE: For review: Background paper for Middle Georgia Clean Air Coalition (mtg w/ Andrew this Thursday)
Attachments: ajd_Boeing and General Electric_102218_v1.docx; ajdREV-Middle Georgia Clean Air Coalition Memo-102218-v1.docx; ajd_AF&PA_102318-v1.docx.docx

Attached are the three backgrounders for Wheeler's meetings on Thursday. Please get back any edits by 3:00 tomorrow.

From: Lewis, Josh
Sent: Tuesday, October 23, 2018 10:28 AM
To: Dominguez, Alexander <dominguez.alexander@epa.gov>; Woods, Clint <woods.clint@epa.gov>
Cc: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: RE: For review: Background paper for Middle Georgia Clean Air Coalition (mtg w/ Andrew this Thursday)

For global automakers, as you probably know they were just in to meet w/ Bill and Mandy yesterday. Andrew has since asked for a CAFE update, which is on the calendar for Wed. So I was going to propose Bill/Mandy take 2 minutes at the CAFE update meeting to preview for Andrew what he'll be hearing on Friday. Make sense?

From: Dominguez, Alexander
Sent: Tuesday, October 23, 2018 10:21 AM
To: Woods, Clint <woods.clint@epa.gov>; Lewis, Josh <Lewis.Josh@epa.gov>
Cc: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: RE: For review: Background paper for Middle Georgia Clean Air Coalition (mtg w/ Andrew this Thursday)

I started revising the backgrounder yesterday and will incorporate NAAQS attainment/nonattainment status. Additionally, I'll be included one-pagers for Boeing and AF&PA I've started. Clint – as the latter are not on your calendar don't worry about editing unless you have a desire to do so. I just want to package all three together for my own sanity.

Josh – I have not started on anything for global automakers on Friday. If you wouldn't mind tackling that one and/or asking OTAQ to draft something that would be much appreciated.

From: Woods, Clint
Sent: Tuesday, October 23, 2018 10:10 AM
To: Lewis, Josh <Lewis.Josh@epa.gov>
Cc: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>; Dominguez, Alexander <dominguez.alexander@epa.gov>
Subject: Re: For review: Background paper for Middle Georgia Clean Air Coalition (mtg w/ Andrew this Thursday)

Thanks so much - I have a few edits and, if we could incorporate NAAQS attainment/nonattainment status for these counties, think that would help

On Oct 23, 2018, at 10:00 AM, Lewis, Josh <Lewis.Josh@epa.gov> wrote:

Let me know if you have any comments on this backgrounder that R4 drafted. It's due to the 3rd floor by Wednesday afternoon. The meeting w/ the coalition is on Thursday (it's on both of your calendars; Bill travelling that day so won't be attending).

<Middle Georgia Clean Air Coalition-Reg 4 notes for EPA HQ meeting-Oct 2018.docx>

OAR Briefing Materials for Acting Administrator Wheeler
October 25, 2018 – American Forest & Paper Association

American Forest & Paper Association (AF&PA)

Ex. 5 Deliberative Process (DP)

Deliberative Material – Do Not Cite or Quote

OAR Briefing Materials for Acting Administrator Wheeler
October 25, 2018 – Boeing and General Electric

Boeing and General Electric

Ex. 5 Deliberative Process (DP)

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OAR Briefing Materials for Acting Administrator Wheeler
October 25, 2018 – Middle Georgia Clean Air Coalition

Middle Georgia Clean Air Coalition (MGCAC)

Ex. 5 Deliberative Process (DP)

Deliberative Material – Do Not Cite or Quote

Message

From: Gunasekara, Mandy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=53D1A3CAA8BB4EBAB8A2D28CA59B6F45-GUNASEKARA,]
Sent: 10/23/2018 7:59:41 PM
To: Dickerson, Aaron [dickerson.aaron@epa.gov]
CC: Humphreys, Hayly [humphreys.hayly@epa.gov]; Dominguez, Alexander [dominguez.alexander@epa.gov]
Subject: Briefing Materials for 10/25
Attachments: FINAL Middle Georgia Clean Air Coalition Memo-102218-v1.docx; Boeing and General Electric_102218_v1.docx

See attached for 2 of the 3 OAR meetings with AW on Thursday.

Mandy M. Gunasekara
Principal Deputy Assistant Administrator
Office of Air and Radiation
US Environmental Protection Agency

OAR Briefing Materials for Acting Administrator Wheeler
October 25, 2018 – Boeing and General Electric

Boeing and General Electric

Ex. 5 Deliberative Process (DP)

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OAR Briefing Materials for Acting Administrator Wheeler
October 25, 2018 – Middle Georgia Clean Air Coalition

Middle Georgia Clean Air Coalition (MGCAC)

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Message

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Sent: 8/30/2018 12:40:12 PM
To: OTAQ Materials [OTAQMaterials@epa.gov]
CC: Samulski, Michael [samulski.michael@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]
Subject: draft email for Chris to send AA Wehrum regarding FAA senior career staff participating in the aircraft industry meeting on September 20

Chris –

I communicated with Pete Pagano at Boeing regarding FAA's request to have one or two participants from FAA (Kevin Welsh and/or Ralph Iovinelli) participate in the September 20 meeting with AA Wehrum & OTAQ. Pete and the industry are fine with that, and I think it will be helpful for FAA and EPA to hear the industries messages at the same time.

Below is an email you can consider sending to AA Wehrum so he is aware.

Thanks
Bill

<< draft>>

Subject: FAA staff participation in the September 20 aircraft industry meeting

Dear Bill,

Ex. 5 Deliberative Process (DP)

Thanks
Chris.

Message

From: Pagano (US), Peter A [peter.a.pagano@boeing.com]
Sent: 9/18/2018 2:46:29 PM
To: Rakosnik, Delaney [rakosnik.delaney@epa.gov]
CC: Lewis, Josh [Lewis.Josh@epa.gov]; Hengst, Benjamin [Hengst.Benjamin@epa.gov]; Atkinson, Emily [Atkinson.Emily@epa.gov]
Subject: RE: CONFIRMED RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 20

Thanks for the notice on start time. Quick question - just confirming the meeting length is still 45 minutes?

Peter A. Pagano
 Director, Environment
 The Boeing Company
 703-414-6486
 Email: peter.a.pagano@boeing.com

From: Rakosnik, Delaney [mailto:rakosnik.delaney@epa.gov]
Sent: Monday, September 17, 2018 2:08 PM
To: Pagano (US), Peter A <peter.a.pagano@boeing.com>
Cc: Lewis, Josh <Lewis.Josh@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Atkinson, Emily <Atkinson.Emily@epa.gov>
Subject: RE: CONFIRMED RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 20

Hi Peter,

Your meeting with Bill Wehrum has been pushed to 10:30am on Thursday. Please let me know if you have any questions.

Thanks,

Delaney Rakosnik
 Staff Assistant
 Immediate Office of the Assistant Administrator
 Office of Air and Radiation, USEPA
 Room 5406A, 1200 Pennsylvania Avenue NW
 Washington, DC 20460
 Voice: 202-564-0935
 Email: rakosnik.delaney@epa.gov

From: Rakosnik, Delaney
Sent: Friday, September 14, 2018 9:27 AM
To: 'Pagano (US), Peter A' <peter.a.pagano@boeing.com>
Cc: Lewis, Josh <Lewis.Josh@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Atkinson, Emily <Atkinson.Emily@epa.gov>
Subject: RE: CONFIRMED RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 20

Hi Peter,

Thanks for your note. There will be about 15 people participating on our side.

Please let me know if you have another other questions.

Many thanks,

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Immediate Office of the Assistant Administrator
Office of Air and Radiation, USEPA
Room 5406A, 1200 Pennsylvania Avenue NW
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Voice: 202-564-0935
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Upon arrival, let the guards know that you were instructed to call 202-564-7404 for a security escort. Please send me a list of participants in advance of the meeting and feel free to contact me should you need any additional information.

Many thanks,

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3. nvPM
4. NOx
5. CO2

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Peter A. Pagano
Director, Environment

The Boeing Company

703-414-6486

Email: peter.a.pagano@boeing.com

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Sent: Monday, July 30, 2018 7:14 AM
To: Rakosnik, Delaney <rakosnik.delaney@epa.gov>
Cc: Lewis, Josh <Lewis.Josh@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Atkinson, Emily <Atkinson.Emily@epa.gov>
Subject: RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Delaney

Thanks for the message. This is to confirm that the meeting time on Sept 20 will work on our end. We will be in touch to provide participant names closer to the meeting date. Please let me know what additional information you may need.

All the best

Pete Pagano

From: Rakosnik, Delaney <rakosnik.delaney@epa.gov>
Sent: Friday, July 27, 2018 12:31:07 PM
To: Pagano (US), Peter A
Cc: Lewis, Josh; Hengst, Benjamin; Atkinson, Emily
Subject: RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Peter,

Bill Wehrum can accommodate a 45 min meeting on Sept 20th at 10am. How does that time work for your schedules?

Many thanks,

Delaney Rakosnik
Staff Assistant
Immediate Office of the Assistant Administrator
Office of Air and Radiation, USEPA
Room 5406A, 1200 Pennsylvania Avenue NW
Washington, DC 20460
Voice: 202-564-0935
Email: rakosnik.delaney@epa.gov

From: Pagano (US), Peter A [<mailto:peter.a.pagano@boeing.com>]
Sent: Monday, July 23, 2018 3:17 PM
To: Rakosnik, Delaney <rakosnik.delaney@epa.gov>
Cc: Lewis, Josh <Lewis.Josh@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>
Subject: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Delaney

The purpose of this message is to request a meeting with Assistant Administrator Wehrum to discuss aircraft emissions issues that are within the jurisdiction of the International Civil Aviation Organization's (ICAO) Environment Committee. OTAQ staff are actively engaged in policy formulation at ICAO as well as in developing domestic implementing regulations. Meeting participants would include representatives from Boeing; General Electric; and the Aerospace Industries Association. Attached below is a draft agenda which includes specific discussion topics. We are requesting Sept 19 or 20 as potential meeting dates because out of town participants for both companies will already be in DC for an industry meeting earlier in the week. We will work with you to find a convenient time that works for Mr Wehrum on either of those days. You should know that I have already provided background regarding this request to OTAQ (Ben Hengst). Thank you in advance for your assistance and please let me know if any additional information would be helpful to you.

Draft Agenda

1. ICAO Background and Regulatory Policy Development Process
2. Industry Engagement with ICAO and its Environment Committee (CAEP)
3. nvPM
4. NOx
5. CO2

Sincerely,

Peter A. Pagano
Director, Environment
The Boeing Company
703-414-6486
Email: peter.a.pagano@boeing.com

Message

From: Charmley, William [charmley.william@epa.gov]
Sent: 9/17/2018 8:59:49 PM
To: kevin.welsh@faa.gov; Ralph.Iovinelli@faa.gov
CC: Manning, Bryan [manning.bryan@epa.gov]; Samulski, Michael [samulski.michael@epa.gov]
Subject: RE: Industry participants for next week's meeting between aircraft/engine industry stakeholders and EPA Assistant Administrator Wehrum

Dear Kevin and Ralph,

This meeting with the aircraft industry and EPA AA Wehrum has been pushed back to a 10:30 am start time on Thursday, September 20.

The meeting will be in room 5400 North in the William Jefferson Clinton building (the EPA headquarters building).

Thanks
Bill

From: Charmley, William
Sent: Friday, September 14, 2018 9:32 AM
To: 'kevin.welsh@faa.gov' <kevin.welsh@faa.gov>; Ralph.Iovinelli@faa.gov
Cc: Manning, Bryan <manning.bryan@epa.gov>; Michael Samulski (samulski.michael@epa.gov) <samulski.michael@epa.gov>
Subject: Industry participants for next week's meeting between aircraft/engine industry stakeholders and EPA Assistant Administrator Wehrum

Dear Ralph and Kevin –

AA Wehrum's office informed us today of who will be coming from the industry for next Thursday's meeting with him.

The list is below.

Thanks
Bill

- Aerospace Industries Association: Leslie Riegler and David Hyde
- Boeing: Ted Austell, Pete Pagano, John Moloney, Dan Allyn, Sean Newsum
- General Electric: Roger Martella, Neal Kemkar, Mike Fitzpatrick, Muni Majjigi, Joe Zelina

Message

From: Samulski, Michael [samulski.michael@epa.gov]
Sent: 8/20/2018 5:56:27 PM
To: Manning, Bryan [manning.bryan@epa.gov]
Subject: RE: Materials for Friday's Briefing with Bill Wehrum on Aircraft CO2 NPRM
Attachments: Briefing for Bill Wehrum on Aircraft CO2 NPRM_8-20-18 - mjs.pptx

Ex. 5 Deliberative Process (DP)

Mike

Michael Samulski
U.S. Environmental Protection Agency
Office of Transportation and Air Quality
Director, Large Marine and Aviation Center
1 (734) 214-4532
samulski.michael@epa.gov

From: Manning, Bryan
Sent: Monday, August 20, 2018 1:15 PM
To: Samulski, Michael <samulski.michael@epa.gov>
Subject: RE: Materials for Friday's Briefing with Bill Wehrum on Aircraft CO2 NPRM

Ex. 5 Deliberative Process (DP)

Thanks again,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

From: Samulski, Michael
Sent: Monday, August 20, 2018 11:51 AM
To: Manning, Bryan <manning.bryan@epa.gov>
Subject: RE: Materials for Friday's Briefing with Bill Wehrum on Aircraft CO2 NPRM

Thanks Bryan. I made a few edits. See what you think.

Mike

Michael Samulski
U.S. Environmental Protection Agency
Office of Transportation and Air Quality
Director, Large Marine and Aviation Center
1 (734) 214-4532
samulski.michael@epa.gov

From: Manning, Bryan
Sent: Monday, August 20, 2018 8:28 AM
To: Samulski, Michael <samulski.michael@epa.gov>
Subject: Materials for Friday's Briefing with Bill Wehrum on Aircraft CO2 NPRM

Hi Mike,

Ex. 5 Deliberative Process (DP)

Thanks,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

From: Samulski, Michael
Sent: Tuesday, August 14, 2018 3:25 PM
To: OTAQ Materials <OTAQMaterials@epa.gov>
Cc: Orlin, David <Orlin.David@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>; Yen, David <Yen.David@epa.gov>; Mueller, John <mueller.john@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Charmley, William <charmley.william@epa.gov>
Subject: Materials for Tomorrow's Briefing with Chris on Aircraft CO2 NPRM

The briefing materials are attached.

Mike

Michael Samulski
U.S. Environmental Protection Agency
Office of Transportation and Air Quality
Director, Large Marine and Aviation Center
1 (734) 214-4532
samulski.michael@epa.gov

DRAFT

**Status Update on NPRM for Aircraft CO2
Emissions Standards and Test Procedures**

Briefing for Bill Wehrum

August 24, 2018

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Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Message

From: Samulski, Michael [samulski.michael@epa.gov]
Sent: 8/20/2018 3:50:35 PM
To: Manning, Bryan [manning.bryan@epa.gov]
Subject: RE: Materials for Friday's Briefing with Bill Wehrum on Aircraft CO2 NPRM
Attachments: Briefing for Bill Wehrum on Aircraft CO2 NPRM_8-20-18 - mjs.pptx

Ex. 5 Deliberative Process (DP)

Mike

Michael Samulski
 U.S. Environmental Protection Agency
 Office of Transportation and Air Quality
 Director, Large Marine and Aviation Center
 1 (734) 214-4532
 samulski.michael@epa.gov

From: Manning, Bryan
Sent: Monday, August 20, 2018 8:28 AM
To: Samulski, Michael <samulski.michael@epa.gov>
Subject: Materials for Friday's Briefing with Bill Wehrum on Aircraft CO2 NPRM

Hi Mike,

Ex. 5 Deliberative Process (DP)

Thanks,

Bryan

Bryan Manning
 U.S. EPA Office of Transportation and Air Quality
 Large Marine and Aviation Center
 2000 Traverwood Drive
 Ann Arbor, MI 48105
 (ph) 734-214-4832 (fax) 734-214-4816
 manning.bryan@epa.gov

From: Samulski, Michael
Sent: Tuesday, August 14, 2018 3:25 PM
To: OTAQ Materials <OTAQMaterials@epa.gov>
Cc: Orlin, David <Orlin.David@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>; Yen, David <Yen.David@epa.gov>; Mueller, John <mueller.john@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>;

Manning, Bryan <manning.bryan@epa.gov>; Charmley, William <charmley.william@epa.gov>

Subject: Materials for Tomorrow's Briefing with Chris on Aircraft CO2 NPRM

The briefing materials are attached.

Mike

Michael Samulski
U.S. Environmental Protection Agency
Office of Transportation and Air Quality
Director, Large Marine and Aviation Center
1 (734) 214-4532
samulski.michael@epa.gov

DRAFT

**Status Update on NPRM for Aircraft CO2
Emissions Standards and Test Procedures**

Briefing for Bill Wehrum

August 24, 2018

INTERNAL, DELIBERATIVE

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Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Message

From: Leggett, Cullen [Leggett.Cullen@epa.gov]
Sent: 4/24/2019 7:12:26 PM
To: Thrift, Mike [thrift.mike@epa.gov]; Orlin, David [Orlin.David@epa.gov]; Samulski, Michael [samulski.michael@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Yen, David [Yen.David@epa.gov]; Maeroff, Bruce [Maeroff.Bruce@epa.gov]
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Attorney Client (AC)

Regards,
Cullen Leggett
+1 734-214-4514

From: Thrift, Mike
Sent: Monday, April 22, 2019 17:18 PM
To: Orlin, David <Orlin.David@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Attorney Client (AC)

Ex. 5 Attorney Client (AC)

From: Orlin, David

Sent: Monday, April 22, 2019 1:40 PM

To: Leggett, Cullen <Leggett.Cullen@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>

Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Attorney Client (AC)

David Orlin

U.S. EPA, Office of General Counsel

(202) 564-1222

From: Leggett, Cullen

Sent: Monday, April 22, 2019 4:31 PM

To: Orlin, David <Orlin.David@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>

Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

David,

Ex. 5 Attorney Client (AC)

Regards,
Cullen Leggett
+1 734-214-4514

From: Orlin, David
Sent: Monday, April 22, 2019 15:55 PM
To: Thrift, Mike <thrift.mike@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Attorney Client (AC)

David Orlin
U.S. EPA, Office of General Counsel
(202) 564-1222

From: Thrift, Mike
Sent: Monday, April 15, 2019 3:59 PM
To: Leggett, Cullen <Leggett.Cullen@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>; Orlin, David <Orlin.David@epa.gov>
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Attorney Client (AC)

From: Leggett, Cullen
Sent: Monday, April 15, 2019 11:41 AM
To: Thrift, Mike <thrift.mike@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>; Orlin, David <Orlin.David@epa.gov>
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Mike,

Ex. 5 Attorney Client (AC)

Regards,
Cullen Leggett
+1 734-214-4514

From: Thrift, Mike
Sent: Friday, April 12, 2019 16:40 PM
To: Leggett, Cullen <Leggett.Cullen@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>; Orlin, David <Orlin.David@epa.gov>
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Attorney Client (AC)

From: Thrift, Mike
Sent: Friday, April 12, 2019 1:32 PM
To: Leggett, Cullen <Leggett.Cullen@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>; Orlin, David <Orlin.David@epa.gov>
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Attorney Client (AC)

From: Leggett, Cullen
Sent: Friday, April 12, 2019 10:31 AM
To: Samulski, Michael <samulski.michael@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Mike,

Ex. 5 Deliberative Process (DP)

Regards,
Cullen Leggett
+1 734-214-4514

From: Samulski, Michael
Sent: Friday, April 12, 2019 13:25 PM
To: Leggett, Cullen <Leggett.Cullen@epa.gov>
Subject: FW: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

From: Charmley, William
Sent: Friday, April 05, 2019 3:03 PM
To: Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Grundler, Christopher <grundler.christopher@epa.gov>
Cc: Orlin, David <Orlin.David@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ben –

Thank you for following up with AA Wehrum on this topic.

Ex. 5 Deliberative Process (DP)

Thanks

Bill

From: Hengst, Benjamin

Sent: Thursday, April 04, 2019 11:14 AM

To: Manning, Bryan <manning.bryan@epa.gov>; Charmley, William <charmley.william@epa.gov>

Cc: Orlin, David <Orlin.David@epa.gov>

Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Deliberative Process (DP)

From: Manning, Bryan
Sent: Thursday, April 4, 2019 10:39 AM
To: Charmley, William <charmley.william@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>
Cc: Orlin, David <Orlin.David@epa.gov>
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Hi Bill,

Ex. 5 Deliberative Process (DP)

Thanks,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

From: Charmley, William
Sent: Thursday, April 04, 2019 9:23 AM
To: Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>
Cc: Orlin, David <Orlin.David@epa.gov>
Subject: FW: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ben –

Ex. 5 Deliberative Process (DP)

Thanks

Bill

From: Grundler, Christopher
Sent: Wednesday, April 03, 2019 2:53 PM
To: Hengst, Benjamin <Hengst.Benjamin@epa.gov>
Cc: Charmley, William <charmley.william@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>
Subject: Re: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Deliberative Process (DP)

Christopher Grundler, Director

Office of Transportation and Air Quality

U.S. Environmental Protection Agency

202.564.1682 (Washington DC)

734.214.4207 (Ann Arbor MI)

734.645.5221 (mobile)

www.epa.gov/otaq

On Apr 3, 2019, at 2:40 PM, Hengst, Benjamin <Hengst.Benjamin@epa.gov> wrote:

Ex. 5 Deliberative Process (DP)

From: Charmley, William
Sent: Wednesday, April 3, 2019 2:10 PM
To: Grundler, Christopher <grundler.christopher@epa.gov>
Cc: Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>
Subject: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Dear Chris and Ben,

Yesterday Boeing and FedEx met with AA Werhum, Principal Deputy AA Anne Idsal, and Deputy AA Clint Woods to discuss the CO2 standard setting rule topic. This meeting was at the industry request. For OTAQ, Brian Manning, Cullen Leggett, John Mueller and Courtney Herbolzheimer. For Boeing and FedEx, the participants were:

- Peter Pagano, Boeing
- John Moloney, Boeing

- Rush O’Keefe, FedEx
- Ralph Carter, FedEx
- Steven Taylor, FedEx

Ex. 4 CBI

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Thanks
Bill

Message

From: Orlin, David [Orlin.David@epa.gov]
Sent: 4/22/2019 9:04:35 PM
To: Manning, Bryan [manning.bryan@epa.gov]
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

thanks

David Orlin

U.S. EPA, Office of General Counsel

(202) 564-1222

From: Manning, Bryan
Sent: Monday, April 22, 2019 4:56 PM
To: Orlin, David <Orlin.David@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Hi David,

Ex. 5 Attorney Client (AC)

Thanks,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

From: Orlin, David
Sent: Monday, April 22, 2019 4:40 PM
To: Leggett, Cullen <Leggett.Cullen@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Attorney Client (AC)

David Orlin

U.S. EPA, Office of General Counsel

(202) 564-1222

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Sent: Monday, April 22, 2019 4:31 PM

To: Orlin, David <Orlin.David@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>

Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

David,

Ex. 5 Attorney Client (AC)

Regards,

Cullen Leggett

+1 734-214-4514

From: Orlin, David

Sent: Monday, April 22, 2019 15:55 PM

To: Thrift, Mike <thrift.mike@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>

Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Attorney Client (AC)

David Orlin

U.S. EPA, Office of General Counsel

(202) 564-1222

From: Thrift, Mike

Sent: Monday, April 15, 2019 3:59 PM

To: Leggett, Cullen <Leggett.Cullen@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>; Orlin, David <Orlin.David@epa.gov>

Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Attorney Client (AC)

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Sent: Monday, April 15, 2019 11:41 AM

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Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Mike,

Ex. 5 Attorney Client (AC)

Regards,

Cullen Leggett

+1 734-214-4514

From: Thrift, Mike

Sent: Friday, April 12, 2019 16:40 PM

To: Leggett, Cullen <Leggett.Cullen@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>; Orlin, David

<Orlin.David@epa.gov>

Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Attorney Client (AC)

From: Thrift, Mike

Sent: Friday, April 12, 2019 1:32 PM

To: Leggett, Cullen <Leggett.Cullen@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>; Orlin, David <Orlin.David@epa.gov>

Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Attorney Client (AC)

From: Leggett, Cullen

Sent: Friday, April 12, 2019 10:31 AM

To: Samulski, Michael <samulski.michael@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>

Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Mike,

Ex. 5 Deliberative Process (DP)

Regards,

Cullen Leggett

+1 734-214-4514

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Sent: Friday, April 12, 2019 13:25 PM

To: Leggett, Cullen <Leggett.Cullen@epa.gov>

Subject: FW: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

From: Charmley, William

Sent: Friday, April 05, 2019 3:03 PM

To: Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Grundler, Christopher <grundler.christopher@epa.gov>

Cc: Orlin, David <Orlin.David@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>

Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ben –

Thank you for following up with AA Wehrum on this topic.

Ex. 5 Deliberative Process (DP)

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Thanks

Bill

From: Hengst, Benjamin

Sent: Thursday, April 04, 2019 11:14 AM

To: Manning, Bryan <manning.bryan@epa.gov>; Charmley, William <charmley.william@epa.gov>

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Thanks,

Bryan

Bryan Manning

U.S. EPA Office of Transportation and Air Quality

Large Marine and Aviation Center

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Ann Arbor, MI 48105

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Ben –

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Thanks

Bill

From: Grundler, Christopher

Sent: Wednesday, April 03, 2019 2:53 PM

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U.S. Environmental Protection Agency

202.564.1682 (Washington DC)

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Ex. 4 CBI

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Thanks

Bill

Message

From: Leggett, Cullen [Leggett.Cullen@epa.gov]
Sent: 4/17/2019 8:38:00 PM
To: Yen, David [Yen.David@epa.gov]; Thrift, Mike [thrift.mike@epa.gov]; Samulski, Michael [samulski.michael@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Maeroff, Bruce [Maeroff.Bruce@epa.gov]; Orlin, David [Orlin.David@epa.gov]
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David,

Ex. 5 Deliberative Process (DP)

Regards,
Cullen Leggett
+1 734-214-4514

From: Yen, David
Sent: Wednesday, April 17, 2019 16:23 PM
To: Leggett, Cullen <Leggett.Cullen@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>; Orlin, David <Orlin.David@epa.gov>
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Thanks,

Bryan

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Thanks

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Ex. 4 CBI

Ex. 5 Deliberative Process (DP)

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To: Thrift, Mike [thrift.mike@epa.gov]; Samulski, Michael [samulski.michael@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Yen, David [Yen.David@epa.gov]; Maeroff, Bruce [Maeroff.Bruce@epa.gov]; Orlin, David [Orlin.David@epa.gov]
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Ex. 4 CBI

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Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum
Attachments: Alternative means of adopting the ICAO Std+mt041219.pptx

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Sent: Wednesday, April 03, 2019 2:53 PM
To: Hengst, Benjamin <Hengst.Benjamin@epa.gov>
Cc: Charmley, William <charmley.william@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>
Subject: Re: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Deliberative Process (DP)

Christopher Grundler, Director
Office of Transportation and Air Quality
U.S. Environmental Protection Agency
202.564.1682 (Washington DC)
734.214.4207 (Ann Arbor MI)
734.645.5221 (mobile)
www.epa.gov/otaq

On Apr 3, 2019, at 2:40 PM, Hengst, Benjamin <Hengst.Benjamin@epa.gov> wrote:

Ex. 5 Deliberative Process (DP)

From: Charmley, William
Sent: Wednesday, April 3, 2019 2:10 PM
To: Grundler, Christopher <grundler.christopher@epa.gov>

Cc: Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>

Subject: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Dear Chris and Ben,

Yesterday Boeing and FedEx met with AA Werhum, Principal Deputy AA Anne Idsal, and Deputy AA Clint Woods to discuss the CO2 standard setting rule topic. This meeting was at the industry request. For OTAQ, Brian Manning, Cullen Leggett, John Mueller and Courtney Herbolzheimer. For Boeing and FedEx, the participants were:

- Peter Pagano, Boeing
- John Moloney, Boeing
- Rush O'Keefe, FedEx
- Ralph Carter, FedEx
- Steven Taylor, FedEx

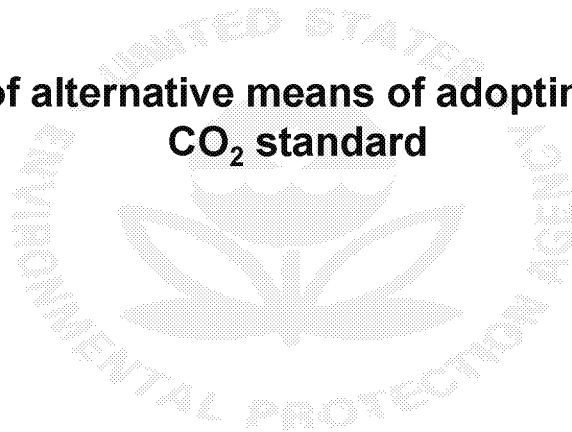
Ex. 4 CBI

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Thanks
Bill

**Analysis of alternative means of adopting the ICAO
CO₂ standard**



Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

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Ex. 5 Deliberative Process (DP)

OGC Thoughts & Other Ideas



Current Status of Rule Making



Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)



APPENDIX

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Message

From: Leggett, Cullen [Leggett.Cullen@epa.gov]
Sent: 4/12/2019 5:31:18 PM
To: Samulski, Michael [samulski.michael@epa.gov]; Thrift, Mike [thrift.mike@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Yen, David [Yen.David@epa.gov]; Maeroff, Bruce [Maeroff.Bruce@epa.gov]
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Deliberative Process (DP)

Regards,
Cullen Leggett
+1 734-214-4514

From: Samulski, Michael
Sent: Friday, April 12, 2019 13:25 PM
To: Leggett, Cullen <Leggett.Cullen@epa.gov>
Subject: FW: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

From: Charmley, William
Sent: Friday, April 05, 2019 3:03 PM
To: Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Grundler, Christopher <grundler.christopher@epa.gov>
Cc: Orlin, David <Orlin.David@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ben –

Thank you for following up with AA Wehrum on this topic.

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Thanks

Bill

From: Hengst, Benjamin

Sent: Thursday, April 04, 2019 11:14 AM

To: Manning, Bryan <manning.bryan@epa.gov>; Charmley, William <charmley.william@epa.gov>

Cc: Orlin, David <Orlin.David@epa.gov>

Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

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Sent: Thursday, April 4, 2019 10:39 AM

To: Charmley, William <charmley.william@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>

Cc: Orlin, David <Orlin.David@epa.gov>

Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Hi Bill,

Ex. 5 Deliberative Process (DP)

Thanks,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

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Sent: Thursday, April 04, 2019 9:23 AM

To: Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>

Cc: Orlin, David <Orlin.David@epa.gov>

Subject: FW: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ben –

Ex. 5 Deliberative Process (DP)

Thanks

Bill

From: Grundler, Christopher

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To: Hengst, Benjamin <Hengst.Benjamin@epa.gov>

Cc: Charmley, William <charmley.william@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Thrift, Mike

<thrift.mike@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>

Subject: Re: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Deliberative Process (DP)

Christopher Grundler, Director

Office of Transportation and Air Quality

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Thrift, Mike <thrift.mike@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>

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- Peter Pagano, Boeing
- John Moloney, Boeing
- Rush O'Keefe, FedEx
- Ralph Carter, FedEx
- Steven Taylor, FedEx

Ex. 5 Deliberative Process (DP)

Ex. 4 CBI

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Thanks
Bill

Message

From: Charmley, William [charmley.william@epa.gov]
Sent: 8/21/2018 10:21:51 AM
To: Dunham, Sarah [Dunham.Sarah@epa.gov]; Birnbaum, Rona [Birnbaum.Rona@epa.gov]; Gunning, Paul [Gunning.Paul@epa.gov]
CC: Samulski, Michael [samulski.michael@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Grundler, Christopher [grundler.christopher@epa.gov]
Subject: OTAQ briefing for AA Wehrum on aircraft CO2 NPRM development - Friday, August 24 from 10-11am
Attachments: Prebrief to Chris on Aircraft CO2 NPRM.PPTX

Dear Sarah, Rona, and Paul

Ex. 5 Deliberative Process (DP)

Thanks
Bill

DRAFT

**Status Update on NPRM for Aircraft CO2
Emissions Standards and Test Procedures**

[pre-brief for Bill Wehrum on August 21]

Briefing for Chris Grundler

August 15, 2018

INTERNAL, DELIBERATIVE

Ex. 5 Deliberative Process (DP)

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Ex. 5 Deliberative Process (DP)



APPENDIX

INTERNAL, DELIBERATIVE

12

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Message

From: Manning, Bryan [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9507F60B9C47448A88DD5D270BFC2DD4-MANNING, BRYAN]
Sent: 8/20/2018 7:20:49 PM
To: Samulski, Michael [samulski.michael@epa.gov]
Subject: RE: Materials for Friday's Briefing with Bill Wehrum on Aircraft CO2 NPRM

Okay, Mike. **Ex. 5 Deliberative Process (DP)** The briefing looks good.

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

From: Samulski, Michael
Sent: Monday, August 20, 2018 1:56 PM
To: Manning, Bryan <manning.bryan@epa.gov>
Subject: RE: Materials for Friday's Briefing with Bill Wehrum on Aircraft CO2 NPRM

Ex. 5 Deliberative Process (DP)

Mike

Michael Samulski
U.S. Environmental Protection Agency
Office of Transportation and Air Quality
Director, Large Marine and Aviation Center
1 (734) 214-4532
samulski.michael@epa.gov

From: Manning, Bryan
Sent: Monday, August 20, 2018 1:15 PM
To: Samulski, Michael <samulski.michael@epa.gov>
Subject: RE: Materials for Friday's Briefing with Bill Wehrum on Aircraft CO2 NPRM

Ex. 5 Deliberative Process (DP)

Thanks again,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

From: Samulski, Michael
Sent: Monday, August 20, 2018 11:51 AM
To: Manning, Bryan <manning.bryan@epa.gov>
Subject: RE: Materials for Friday's Briefing with Bill Wehrum on Aircraft CO2 NPRM

Ex. 5 Deliberative Process (DP)

Mike

Michael Samulski
U.S. Environmental Protection Agency
Office of Transportation and Air Quality
Director, Large Marine and Aviation Center
1 (734) 214-4532
samulski.michael@epa.gov

From: Manning, Bryan
Sent: Monday, August 20, 2018 8:28 AM
To: Samulski, Michael <samulski.michael@epa.gov>
Subject: Materials for Friday's Briefing with Bill Wehrum on Aircraft CO2 NPRM

Hi Mike,

Ex. 5 Deliberative Process (DP)

Thanks,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

From: Samulski, Michael
Sent: Tuesday, August 14, 2018 3:25 PM
To: OTAQ Materials <OTAQMaterials@epa.gov>
Cc: Orlin, David <Orlin.David@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>; Yen, David <Yen.David@epa.gov>; Mueller, John <mueller.john@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Charmley, William <charmley.william@epa.gov>
Subject: Materials for Tomorrow's Briefing with Chris on Aircraft CO2 NPRM

The briefing materials are attached.

Mike

Michael Samulski
U.S. Environmental Protection Agency
Office of Transportation and Air Quality
Director, Large Marine and Aviation Center
1 (734) 214-4532
samulski.michael@epa.gov

Message

From: Manning, Bryan [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9507F60B9C47448A88DD5D270BFC2DD4-MANNING, BRYAN]
Sent: 8/20/2018 5:15:01 PM
To: Samulski, Michael [samulski.michael@epa.gov]
Subject: RE: Materials for Friday's Briefing with Bill Wehrum on Aircraft CO2 NPRM
Attachments: Briefing for Bill Wehrum on Aircraft CO2 NPRM_8-20-18 - mjs+BM.pptx

Ex. 5 Deliberative Process (DP)

Thanks again,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
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Ex. 5 Deliberative Process (DP)

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Mike

Michael Samulski
U.S. Environmental Protection Agency
Office of Transportation and Air Quality
Director, Large Marine and Aviation Center
1 (734) 214-4532
samulski.michael@epa.gov

DRAFT

**Status Update on NPRM for Aircraft CO2
Emissions Standards and Test Procedures**

Briefing for Bill Wehrum

August 24, 2018

INTERNAL, DELIBERATIVE

Ex. 5 Deliberative Process (DP)

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APPENDIX

INTERNAL, DELIBERATIVE

15

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Message

From: Manning, Bryan [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9507F60B9C47448A88DD5D270BFC2DD4-MANNING, BRYAN]
Sent: 8/20/2018 12:28:19 PM
To: Samulski, Michael [samulski.michael@epa.gov]
Subject: Materials for Friday's Briefing with Bill Wehrum on Aircraft CO2 NPRM
Attachments: Briefing for Bill Wehrum on Aircraft CO2 NPRM_8-20-18.pptx

Hi Mike,

Ex. 5 Deliberative Process (DP)

Thanks,

Bryan

Bryan Manning
 U.S. EPA Office of Transportation and Air Quality
 Large Marine and Aviation Center
 2000 Traverwood Drive
 Ann Arbor, MI 48105
 (ph) 734-214-4832 (fax) 734-214-4816
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Cc: Orlin, David <Orlin.David@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>; Yen, David <Yen.David@epa.gov>; Mueller, John <mueller.john@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Charmley, William <charmley.william@epa.gov>
Subject: Materials for Tomorrow's Briefing with Chris on Aircraft CO2 NPRM

The briefing materials are attached.

Mike

 Michael Samulski
 U.S. Environmental Protection Agency
 Office of Transportation and Air Quality
 Director, Large Marine and Aviation Center
 1 (734) 214-4532
samulski.michael@epa.gov

DRAFT

**Status Update on NPRM for Aircraft CO2
Emissions Standards and Test Procedures**

Briefing for Bill Wehrum

August 24, 2018

INTERNAL, DELIBERATIVE

Ex. 5 Deliberative Process (DP)

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APPENDIX

INTERNAL, DELIBERATIVE

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Sent: 4/18/2019 9:30:58 PM
To: Leggett, Cullen [Leggett.Cullen@epa.gov]
Subject: CO2 Briefing for Bill

Hi Cullen,

Ex. 5 Deliberative Process (DP)

Thanks,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

From: Thrift, Mike
Sent: Thursday, April 18, 2019 4:34 PM
To: Leggett, Cullen <Leggett.Cullen@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>; Orlin, David <Orlin.David@epa.gov>
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Attorney Client (AC)

From: Leggett, Cullen
Sent: Wednesday, April 17, 2019 12:00 PM
To: Thrift, Mike <thrift.mike@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>; Orlin, David <Orlin.David@epa.gov>
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Mike,

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Regards,
Cullen Leggett
+1 734 214-4514

From: Thrift, Mike
Sent: Monday, April 15, 2019 15:59 PM
To: Leggett, Cullen <Leggett.Cullen@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>; Orlin, David <Orlin.David@epa.gov>
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Sent: Monday, April 15, 2019 11:41 AM
To: Thrift, Mike <thrift.mike@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>; Orlin, David <Orlin.David@epa.gov>
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Mike,

Ex. 5 Attorney Client (AC)

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+1 734-214-4514

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Cc: Orlin, David <Orlin.David@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

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Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Thanks

Bill

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Sent: Thursday, April 04, 2019 11:14 AM

To: Manning, Bryan <manning.bryan@epa.gov>; Charmley, William <charmley.william@epa.gov>

Cc: Orlin, David <Orlin.David@epa.gov>

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From: Manning, Bryan

Sent: Thursday, April 4, 2019 10:39 AM

To: Charmley, William <charmley.william@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>

Cc: Orlin, David <Orlin.David@epa.gov>

Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

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Ex. 5 Deliberative Process (DP)

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Bryan

Bryan Manning

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From: Charmley, William
Sent: Thursday, April 04, 2019 9:23 AM
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Cc: Orlin, David <Orlin.David@epa.gov>
Subject: FW: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ben –

Ex. 5 Deliberative Process (DP)

Thanks

Bill

From: Grundler, Christopher
Sent: Wednesday, April 03, 2019 2:53 PM
To: Hengst, Benjamin <Hengst.Benjamin@epa.gov>
Cc: Charmley, William <charmley.william@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>
Subject: Re: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ex. 5 Deliberative Process (DP)

Christopher Grundler, Director

Office of Transportation and Air Quality

U.S. Environmental Protection Agency

202.564.1682 (Washington DC)

734.214.4207 (Ann Arbor MI)

734.645.5221 (mobile)

www.epa.gov/otaq

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- Ralph Carter, FedEx
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Ex. 4 CBI

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Thanks

Bill

Message

From: Manning, Bryan [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9507F60B9C47448A88DD5D270BFC2DD4-MANNING, BRYAN]
Sent: 4/18/2019 7:48:18 PM
To: Leggett, Cullen [Leggett.Cullen@epa.gov]
CC: Samulski, Michael [samulski.michael@epa.gov]; Mueller, John [mueller.john@epa.gov]; Yen, David [Yen.David@epa.gov]
Subject: Briefing for Bill: alternative to aircraft CO2 rule (Mike Thrift plans to provide comments by end of today)

Hi Cullen,

Ex. 5 Attorney Client (AC)

Thanks,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
Large Marine and Aviation Center
2000 Traverwood Drive
Ann Arbor, MI 48105
(ph) 734-214-4832 (fax) 734-214-4816
manning.bryan@epa.gov

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Sent: Wednesday, April 17, 2019 3:00 PM
To: Thrift, Mike <thrift.mike@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Yen, David <Yen.David@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>; Orlin, David <Orlin.David@epa.gov>
Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Mike,

Ex. 5 Attorney Client (AC)

Regards,
Cullen Leggett
+1 734-214-4514

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Sent: Monday, April 15, 2019 15:59 PM

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Regards,

Cullen Leggett

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Sent: Friday, April 12, 2019 13:25 PM

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Subject: FW: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

From: Charmley, William

Sent: Friday, April 05, 2019 3:03 PM

To: Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Grundler, Christopher <grundler.christopher@epa.gov>

Cc: Orlin, David <Orlin.David@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>

Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ben –

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Thanks

Bill

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Sent: Thursday, April 04, 2019 11:14 AM

To: Manning, Bryan <manning.bryan@epa.gov>; Charmley, William <charmley.william@epa.gov>

Cc: Orlin, David <Orlin.David@epa.gov>

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Subject: RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Hi Bill,

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Thanks,

Bryan

Bryan Manning

U.S. EPA Office of Transportation and Air Quality

Large Marine and Aviation Center

2000 Traverwood Drive

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(ph) 734-214-4832 (fax) 734-214-4816

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Chris, Bill—with regard to the highlighted text:

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To: Thrift, Mike [thrift.mike@epa.gov]; Leggett, Cullen [Leggett.Cullen@epa.gov]; Samulski, Michael [samulski.michael@epa.gov]; Yen, David [Yen.David@epa.gov]; Maeroff, Bruce [Maeroff.Bruce@epa.gov]; Orlin, David [Orlin.David@epa.gov]
Subject: Aircraft Fuel Burn Standards?

Ex. 5 Attorney Client (AC)

Thanks again,

Bryan

Bryan Manning
U.S. EPA Office of Transportation and Air Quality
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